
State of Repair

The state of repair of freeways, local roadways and transit affects travelers in two respects. The more obvious impact is on the quality of travel. The second impact relates to cost: Letting roadways and transit vehicles fall into disrepair often ends up costing more than it would have cost to perform routine maintenance, just as deferring maintenance on a house often results in a more expensive repair.

For freeways and local roadways, pavement condition is used as an indication of the state of repair. The condition of the transit system is measured by the number of times service is interrupted for repairs to vehicles or other systems such as tracks or power supply; these unscheduled repairs are known as service calls.

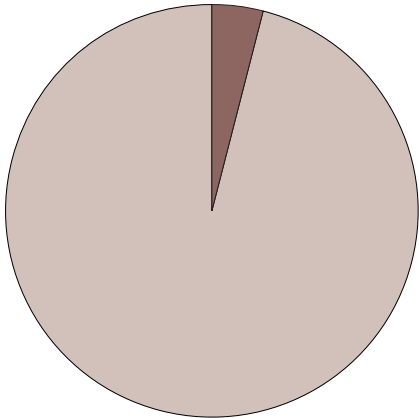
Measure of Freeway Smoothness Slips Slightly From 1998 to 2001

Heavy use of Bay Area freeways has a clear and immediate consequence in the form of increased congestion. One less obvious, somewhat longer-term consequence of heavy freeway use is increased wear and tear on the pavement surfaces themselves. As the agency responsible for maintaining freeways and state highways in the region,

Caltrans keeps close watch on what drivers experience when the rubber literally hits the road on Bay Area freeways. In its most recent measurement, taken at the beginning of 2001, Caltrans found pavement conditions to be acceptable (or better) on the vast majority (94 percent) of Bay

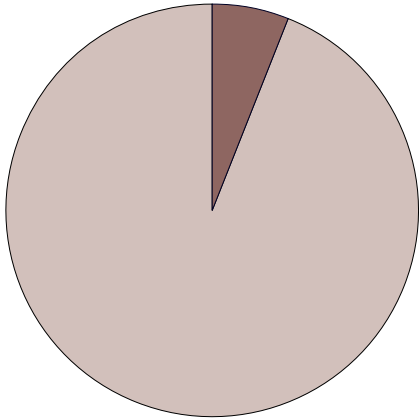
Pavement Condition of Bay Area Freeways, 1998 and 2001

1998



Acceptable **96%**
Less than acceptable **4%**

2001



Acceptable **94%**
Less than acceptable **6%**

Source: Caltrans District 4
Assessment based on the International Roughness Index
100% = 607 miles

Area freeway miles. This represents a slight decline in conditions since 1998, when 96 percent of freeway pavement merited an acceptable rating.

To assess freeway pavement condition, Caltrans deploys roving vehicles equipped with special devices that measure vibrations caused by the road surface. The differ-

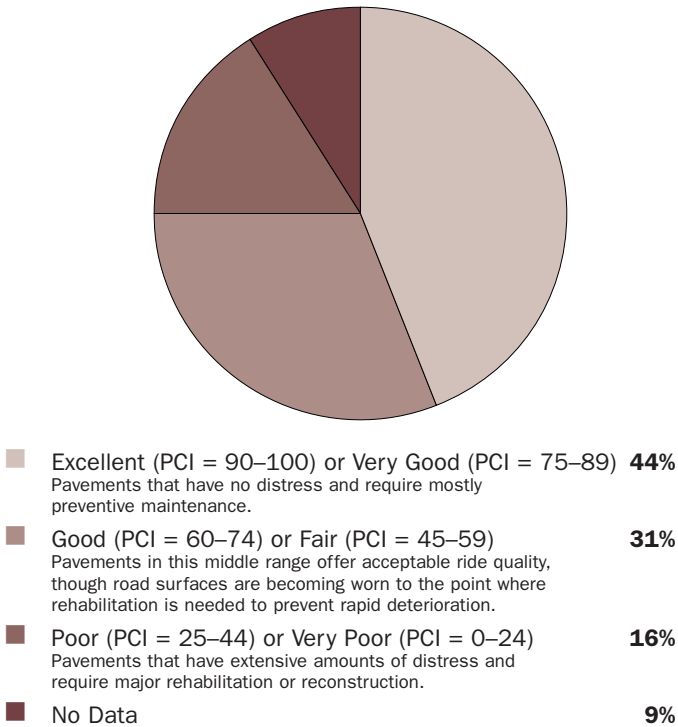
ence between the vibrations measured on a given stretch of road and the level of vibration that would be experienced on an “ideal” or smooth road is expressed numerically using the International Roughness Index. (See note on page 55 for further discussion of International Roughness Index.)

Region’s Roads Rated “Good” Overall, but Conditions Vary by Jurisdiction

While it’s the rib-rattling, pothole-laden roads that seem to garner the most attention around the region, the reality is that, on average, the Bay Area’s 19,000 miles of local roadways are in fairly good condition. Measured against a “pavement condition index” (PCI) used by MTC’s Pavement Management System, the Bay Area’s local roadways scored 66 out of a possible 100 in a 2001 survey — the most extensive assessment of pavement conditions ever

undertaken in the region. Under the PCI rating system, a score of 66 indicates “good” pavement conditions (see rating scale and pie chart below). Of course, as an average, the region’s score masks a considerable amount of variation in pavement conditions on individual roads. Of all local roads, 44 percent were found to be in very good or excellent condition with only minor or no distresses (see pie chart). Such roads

Pavement Condition of Local Bay Area Roadways, 2001



Source: Metropolitan Transportation Commission
92 cities and nine counties reporting
PCI = pavement condition index, a measure of pavement distress

require preventive maintenance only. Pavements in good or fair condition — 31 percent of local road mileage — require some rehabilitation but are still drivable. The 16 percent of local roadways found to be in poor or very poor condition are in need of extensive rehabilitation or reconstruction. Pavements in this category may be difficult to drive on.

Shown below is a list of the Bay Area jurisdictions with the best and worst pavement conditions, based on the most recent survey data. A complete listing of all 101 jurisdictions (out of 109 in the region) surveyed may be found in

Appendix C. Where applicable, individual scores from a pavement-condition survey conducted for MTC in 1997 are also displayed. Only 39 jurisdictions participated in this earlier survey.

In contrast to the direct measure of ride quality used by Caltrans to assess freeway pavement condition (see page 39), the MTC Pavement Management System used by most Bay Area jurisdictions measures visible pavement distresses, such as cracking or patching. Pavement condition scores are assigned to roadway segments and cost-effective repair schedules are generated.

| A Closer Look – The Bay Area jurisdictions with the best and worst average pavement conditions are shown to the right. Often a jurisdiction’s low average pavement condition rating is the result of a roadway maintenance budget that is insufficient to cover a backlog of needs. | Bay Area Jurisdictions With Best and Worst Pavement Condition, 2001 | | | |
|---|---|---------------------------------------|--|---------------------------------------|
| | Best | Pavement Condition Index (out of 100) | Worst | Pavement Condition Index (out of 100) |
| | 1. Belvedere | 86 | 92. Calistoga | 54 |
| | Los Altos | 86 | El Cerrito | 54 |
| | 3. Brentwood | 85 | Richmond | 54 |
| | 4. Oakley | 84 | 95. Larkspur | 53 |
| | 5. Windsor | 81 | Napa | 53 |
| | 6. Contra Costa County (unincorporated) | 80 | San Mateo County (unincorporated) | 53 |
| | Santa Clara (city) | 80 | 98. Petaluma | 51 |
| | 8. Alameda County (unincorporated) | 79 | 99. Sonoma County (unincorporated) | 46 |
| | American Canyon | 79 | 100. Fairfax | 45 |
| | Cupertino | 79 | 101. Half Moon Bay | 43 |
| | Danville | 79 | | |
| | Pleasant Hill | 79 | | |
| | | | Source: Metropolitan Transportation Commission | |
| | | | 101 (of 109) jurisdictions reporting | |
| | | | Pavement Condition Index of 100 = Excellent | |

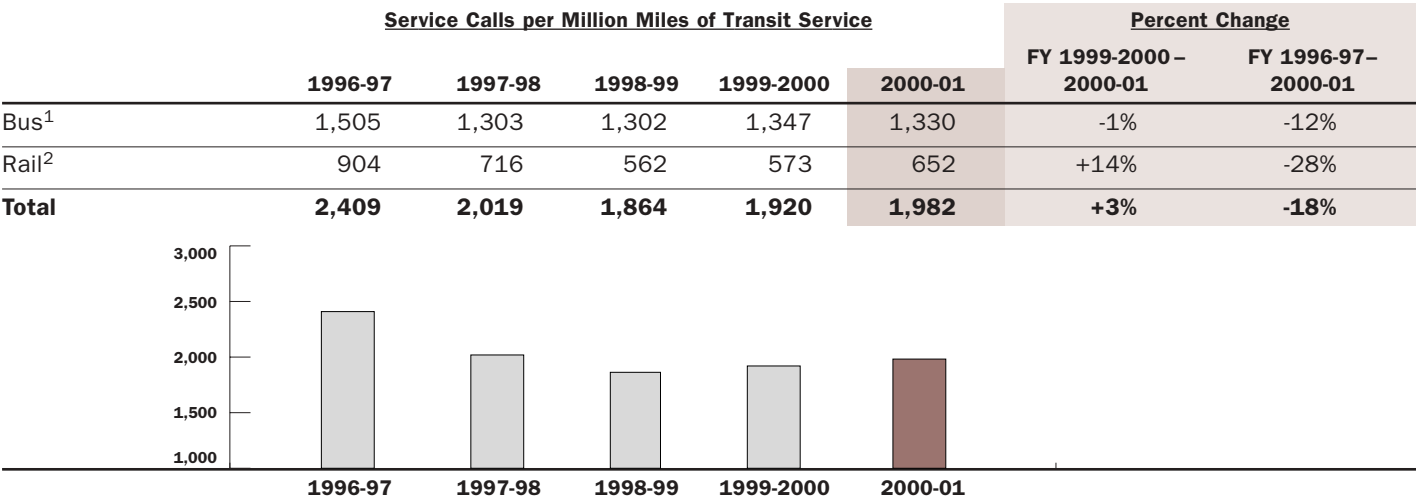
Emergency Repair Rate for Transit Vehicles Up Slightly in 2000-01; Four-year Figures Still Show Improvement

The mobile mechanics who ride to the rescue of stranded Bay Area buses and trains were a little busier in fiscal year 2000-01 than they had been in the 12 months preceding, according to statistics from the Federal Transit Administration. In fiscal year 2000-01, the Bay Area’s seven largest bus and rail operators responded to calls for service 1,982 times for every million miles of service provided, an increase of 3 percent over year-earlier levels.

Despite the recent uptick, however, the rate of service calls logged by the region’s major transit operators has declined by 18 percent in the four years since fiscal year 1996-97.

The improvement is due in part to regional-level funding decisions on the part of MTC that give a high priority to the replacement and rehabilitation of worn-out rail vehicles and buses. (The service-call rate tends to be correlated with both the maintenance practices of individual transit

Service Calls — Major Bay Area Transit Operators, Fiscal Years 1996-97–2000-01



Source: Federal Transit Administration

¹Includes AC Transit, SamTrans, Muni, Valley Transportation Authority (VTA), Golden Gate Transit

²Includes Caltrain, BART, Muni light rail, VTA light rail; data not available for Caltrain in fiscal year 1996-97

operators and the age of the equipment in their fleets.) During the period presented here, Muni replaced most of its old light-rail vehicles (which had been experiencing reliability problems) with new ones, and Golden Gate Transit and AC Transit replaced a substantial number of buses.

The number of service calls per million miles of service provided is a good general indicator of the condi-

tion of the transit system. A service call is defined as any time service is interrupted in order to repair a vehicle or other key facet of the transit delivery system, such as a switching device or power supply for a rail line. Like private automobiles, transit vehicles and systems tend to need more frequent repairs as they age.